

# EXHIBIT E

**UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

XR COMMUNICATIONS, LLC, dba  
VIVATO TECHNOLOGIES,

Plaintiff,

v.

VERIZON COMMUNICATIONS, INC.;  
CELLCO PARTNERSHIP D/B/A  
VERIZON WIRELESS,

Defendants.

CASE NO. 2:23-cv-00203-JRG-RSP

**MEMBER CASE**

**PLAINTIFF XR COMMUNICATIONS, LLC'S PRELIMINARY DISCLOSURE OF  
ASSERTED CLAIMS AND INFRINGEMENT CONTENTIONS**

**I. Patent Rule 3-1: Disclosure of Asserted Claims and Infringement Contentions**

Pursuant to Patent Rule 3-1, Plaintiff XR Communications, LLC dba Vivato Technologies ("Vivato") submits the following Preliminary Disclosure of Asserted Claims and Infringement Contentions. This disclosure is based on the information available to Vivato as of the date of this disclosure, and Vivato reserves the right to amend this disclosure to the full extent permitted, consistent with the Court's Rules and Orders.

**A. Patent Rule 3-1(a): Asserted Claims**

Vivato asserts that Defendants Verizon Communications, Inc.; Cellco Partnership d/b/a Verizon Wireless infringe the following claims (collectively, "Asserted Claims"), including all asserted claims addressed in the claim charts accompanying this disclosure:

- (1) U.S. Patent No. 8,737,511 ("the '511 patent"), claims 1, 2, 4, 5, 6, 9, 10, 11, 13, 14, 15, 18, 19, 20;
- (2) U.S. Patent No. 10,715,235 ("the '235 patent"), claims 1-5, 8-12, 15-19;
- (3) U.S. Patent No. 10,594,376 ("the '376 patent"), claims 1-9, 12-18, 22-34;

(4) U.S. Patent No. 7,177,369 (“the ’369 patent”), claims 1-7, 9-10, 12-14, 15, 19, 21, 28, 32-33, 35-37, 41 (only method claims are asserted); and

(5) U.S. Patent No. 8,289,939 (“the ’939 patent”), claims 15, 17, 20-22, 30, 33-35.

**B. Patent Rule 3-1(b): Accused Instrumentalities of which Vivato is aware**

Vivato asserts that the Asserted Claims are infringed by the various products/instrumentalities used, made, sold, offered for sale, or imported into the United States by Defendants, including cellular base stations and Radio Access Network (RAN) solutions that are provided to Defendants by Nokia or Ericsson and including the cellular carrier services of the Defendants (“Accused Instrumentalities”), that directly infringe, literally and/or under the doctrine of equivalents, various claims of the Asserted Patents. Defendants have, without authorization, operated, used, and sold, and continues to operate, use, and sell access to its mobile network that includes the Accused Instrumentalities. Based on publicly available information, Vivato can make a preliminary identification of components in the RAN solutions provided to Defendants by Ericsson and Nokia. As to Nokia, any advanced antenna systems for 5G networks, Massive MIMO radio systems, 5G base station radio or antenna systems products/instrumentalities, 5G Baseband products/instrumentalities, 5G Radio products/instrumentalities, 5G Antenna products/instrumentalities, RAN Solutions, Cloud RAN, vRAN, anyRAN, Single RAN, or other RAN infrastructure for 5G NR solutions, O-RAN solutions, the AirScale base station(s), AirScale radio(s) including 32TRX Massive MIMO radios and 64TRX Massive MIMO radios, AirScale baseband(s), AirScale 5G mMIMO base station(s), all RAN Solutions containing ReefShark System on Chip and all products containing the same, AirScale Osprey solution(s), AirScale Habrok solution(s), massive MIMO radios, remote radio heads (FDD or TDD or micro), antenna systems, cells, indoor or outdoor basebands, AirScale mRRH solution(s), AirScale pRRH solution(s), AirScale 4.5G Pro RRH, AirScale sHUB, FZHR, AHBOA, FSIH, FHFB, AZHL, AAFIA, 32TRX, and 64TRX. As to Ericsson, any Advanced Antenna Systems for 5G Networks,

Massive MIMO radio systems, 5G AIR products/instrumentalities, 5G Baseband products/instrumentalities, 5G Radio products/instrumentalities, 5G Antenna products/instrumentalities, massive MIMO radios, remote radio heads, antenna systems, cells, indoor or outdoor basebands, RAN Solutions, Cloud RAN, vRAN, RAN infrastructure for 5G NR solutions, O-RAN solutions, any RAN product containing Ericsson silicon, AIR 1279, AIR 3218, AIR 3219, AIR 3229, AIR 3239, AIR 3246, AIR 3258, AIR 3268, AIR 3283, AIR 6419, AIR 6428, AIR 6468, AIR 6476, AIR 6472, AIR 6428, AIR 3229, AIR 3283, AIR 6488, Interleaved AIR, Baseband 5216, Baseband 6502, Baseband 6648, 5G Radio Dot, Radio 2271, Radio 4407, Radio 4408, Radio 4412, Radio 4418, Radio 4471, Radio 4485, Radio 4486, Radio 4890, Radio 4490, Radio 6626, Radio 6646, Radio 8808, Radio 8863, Antenna 1200, Antenna 4001, Antenna 4002, Antenna 4202, Antenna 4300, Antenna 4400, Antenna 4600, Antenna 2200, Antenna 4200, Antenna 4500, Antenna 4600, Antenna 4602, Antenna 4800, Antenna 5500, and Antenna 6600, Antenna 9005, Antenna 9009, Antenna 9800, RAN compute, radio system software, radio system solutions, radios (FDD or TDD), antenna systems and accessories, site system material,. Vivato reserves the right to identify additional models or details as discovery proceeds. Given the voluminous nature of the deployments of the RAN Solutions and the myriad components and deployment configuration options available to each Defendant, the accused RAN Solutions can comprise one or more components, deployments, or architecture configurations and practice the asserted claims. Additional evidence regarding Defendants' Accused Instrumentalities of which Vivato is presently aware are described in more detail in the accompanying preliminary infringement contention charts, Exhibits A-E. Additional model numbers can be found at <https://www.ericsson.com/en/ran>, <https://www.ericsson.com/en/portfolio/networks/ericsson-radio-system/antenna-system>, <https://www.ericsson.com/en/ran/radio-system>, <https://www.ericsson.com/en/ran/elevate-5g>, <https://www.ericsson.com/en/ran/accelerate-5g-everywhere>, <https://www.ericsson.com/en/portfolio/networks/ericsson-radio-system/radio-system->

software/nr-radio-access-network, <https://www.ericsson.com/en/portfolio/networks/>, which are expressly incorporated by reference herein, including all other webpages at this domain. Additional model numbers can be found at <https://www.nokia.com/networks/mobile-networks/airscale-radio-access/>, <https://www.nokia.com/networks/mobile-networks/airscale-radio-access/cloud-ran/>, <https://www.nokia.com/networks/radio-access-networks/open-ran/>, <https://www.nokia.com/networks>, which are expressly incorporated by reference herein, including all other webpages at this domain.

Vivato reserves the right to accuse additional products from Defendants to the extent Vivato becomes aware of additional products during the discovery process. Unless otherwise stated, Vivato's assertions of infringement apply to all variations, versions, and applications of each of the Accused Instrumentalities, on information and belief, that different variations, versions, and applications of each of the Accused Instrumentalities are substantially the same for purposes of infringement of the Asserted Claims.

### **C. Patent Rule 3-1(c): Claim Charts**

Vivato's analysis of Defendants' products is based upon limited information that is publicly available, and based on Vivato's own investigation prior to any discovery in these actions. Specifically, Vivato's analysis is based on certain limited resources that evidence certain products made, sold, used, or imported into the United States by Defendants.

Vivato reserves the right to amend or supplement these disclosures for any of the following reasons:

- (1) Defendants and/or third parties provide evidence relating to the Accused Instrumentalities;
- (2) Vivato's position on infringement of specific claims may depend on the claim constructions adopted by the Court, which has not yet occurred; and

(3) Vivato's investigation and analysis of Defendants' Accused Instrumentalities is based upon public information and Vivato's own investigations. Vivato reserves the right to amend these contentions based upon discovery of e.g. non-public information that Vivato anticipates receiving during discovery.

Attached as Exhibits A-E, and incorporated herein in their entirety, are charts identifying where each element of the Asserted Claims are found in the Accused Instrumentalities.

Unless otherwise indicated, the information provided that corresponds to each claim element is considered to indicate that each claim element is found within each of the different variations, versions, and applications of each of the respective Accused Instrumentalities described above. Vivato expressly reserves the right to rely on any document or evidence cited in any claim chart for any claim element as evidence of infringement of any other claim element of any other Asserted Claim whether in the same chart or in another chart. As such, each claim chart expressly incorporates by reference to the documents and evidence reproduced or cited in each other claim chart, including each other document or evidence cited therein.

**D. Patent Rule 3-1(d): Literal Infringement / Doctrine of Equivalents**

With respect to the patents at issue, each element of each Asserted Claim is considered to be literally present. Vivato also contends that each Asserted Claim is infringed or has been infringed under the doctrine of equivalents in Defendants' Accused Instrumentalities. Vivato also contends that Defendants both directly and indirectly infringe the Asserted Claims. For example, the Accused Instrumentalities are provided by the Defendants to their agents, contractors, network operators, or business partners, who are actively encouraged and instructed (for example, through Defendants' instructions on its website and instructions, manual, or user guides that are provided with the Accused Instrumentalities) by the Defendants to use the Accused Instrumentalities in ways that directly infringe the Asserted Claims. Defendants therefore specifically intend for and

induce their agents, contractors, network operators, or business partners to infringe the Asserted Claims under Section 271(b) through the normal and customary use of the Accused Instrumentalities. In addition, Defendants are contributorily infringing the Asserted Claims under Section 271(c) and/or Section 271(f) by selling, offering for sale, or importing the Accused Instrumentalities into the United States, which constitute a material part of the inventions claimed in the Asserted Claims, are especially made or adapted to infringe the Asserted Claims, and are otherwise not staple articles or commodities of commerce suitable for non-infringing use.

**E. Patent Rule 3-1(e): Priority Dates**

The Asserted Claims of the '511 patent are entitled to a priority date at least as early as April 13, 2012, the filing date of Application No. 13/447,139.

The Asserted Claims of the '235 patent are entitled to a priority date at least as early as February 1, 2002, at least because conception and reduction to practice was complete as of that date. Alternatively conception and reduction to practice of the '235 patent was complete by the date of Document A, Document B, Document D, Document E, Document F, or Document G. XR directs Defendants to "Beamforming for Little Joe" Vivato Technical Report dated February 1, 2002, which is Document C in the Provisional Application No. 60/423,660, which discloses the elements of the claimed inventions. XR further directs Defendants to page "A-71" in Provisional App. No. 60/423,660, which further corroborates that Document C ("Beamforming for Little Joe") is dated February 1, 2002. XR further contends that other documents/appendices in Provisional App. No. 60/423,660, and portions thereof, also disclose the elements of the claimed inventions. Thus, the priority date for the '235 patent is no later than the filing date of Provisional Application No. 60/423,660 on November 4, 2002.

The Asserted Claims of the '376 patent are entitled to a priority date at least as early as February 1, 2002, at least because conception and reduction to practice was complete as of that

date. XR directs Defendants to “Beamforming for Little Joe” Vivato Technical Report dated February 1, 2002, which is Document C in the Provisional Application No. 60/423,660, which discloses the elements of the claimed inventions. XR further directs Defendants to page “A-71” in Provisional App. No. 60/423,660, which further corroborates that Document C (“Beamforming for Little Joe”) is dated February 1, 2002. XR further contends that other documents/appendices in Provisional App. No. 60/423,660, and portions thereof, also disclose the elements of the claimed inventions. Thus, the priority date for the ’376 patent is no later than the filing date of Provisional Application No. 60/423,660 on November 4, 2002.

The Asserted Claims of the ’369 patent are entitled to a priority date at least as early as April 27, 2001, the filing date of Provisional Application No. 60/287,163.

The Asserted Claims of the ’939 patent are entitled to a priority date at least as early as November 4, 2002, the filing date of Provisional Application Nos. 60/423,702 and 60/423,696, and are entitled to a priority date of no later than the date of its original U.S. Patent Application No. 10/700,342 filing on November 3, 2003.

A diligent search continues for additional responsive information and Vivato reserves the right to supplement this response.

**F. Patent Rule 3-1(f): Identification of Instrumentalities Practicing the Claimed Invention**

At this time, Vivato does not identify any of its instrumentalities as practicing the Asserted Claims. A diligent search continues for additional responsive information and Vivato reserves the right to supplement this response.

**II. Patent Rule 3-2: Document Production Accompanying Disclosure**

Pursuant to Patent Rule 3-2, Vivato submits the following Document Production Accompanying Disclosure, along with an identification of the categories to which each of the



documents corresponds.

**F. Patent Rule 3-2(a) documents:**

Vivato is presently unaware of any documents sufficient to evidence any discussion with, disclosure to, or other manner of providing to a third party, or sale of or offer to sell, the inventions recited in the Asserted Claims of the Asserted Patents prior to the application dates or priority dates for the Asserted Patents. A diligent search continues for such documents and Vivato reserves the right to supplement this response.

Vivato is aware of an asset purchase agreement by which Vivato was assigned the patents-in-suit or the applications that gave rise to some of the patents-in-suit. Vivato does not concede that the asset purchase agreement predates any of the application dates or priority dates for any asserted patent, but it is being produced herewith at XR-EDTX-00004152 - XR-EDTX-00004222.

**G. Patent Rule 3-2(b) documents:**

Vivato identifies the following non-privileged documents as potentially related to evidencing conception and reduction to practice of each claimed invention of the Asserted Patents: XR-EDTX-00003812 - XR-EDTX-00004777. A diligent search continues for additional documents and Vivato reserves the right to supplement this response.

**H. Patent Rule 3-2(c) documents:**

Vivato identifies the following documents as being the file histories for the Asserted Patents: XR-EDTX-00000020 - XR-EDTX-00000313, XR-EDTX-00000339 - XR-EDTX-00000809, XR-EDTX-00000822 - XR-EDTX-00001060, XR-EDTX-00001103 - XR-EDTX-00002414, XR-EDTX-00002456 - XR-EDTX-00003811.

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Respectfully submitted,

/s/ Reza Mirzaie

rmirzaie@raklaw.com  
Neil Rubin (CA SBN)  
nrubin@raklaw.com  
Paul A. Kroeger (CA SBN 229074)  
pkroeger@raklaw.com  
Philip X. Wang (CA SBN 262239)  
pwang@raklaw.com  
James N. Pickens (CA SBN 307474)  
jpickens@raklaw.com  
Adam Hoffman  
ahoffman@raklaw.com  
Jacob Buczko  
jbuczko@raklaw.com  
Minna Y. Chan  
mchan@raklaw.com  
Christian Conkle  
cconkle@raklaw.com  
RUSS AUGUST & KABAT  
12424 Wilshire Blvd. 12th Floor  
Los Angeles, CA 90025  
Phone: (310) 826-7474

*Attorneys for Plaintiff XR Communications LLC dba  
Vivato Technologies*

**CERTIFICATE OF SERVICE**

I certify that this document is being served upon counsel of record for Defendants  
on July 28, 2023 via e-mail.

/s/ Reza Mirzaie  
Reza Mirzaie